

Common Core Standards - Resource Page

The resources below have been created to assist teachers' understanding and to aid instruction of this standard.

| Domain | Standard: 7.EE.2 - Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. |
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| <u>Expressions and Equations</u> Use properties of operations to generate equivalent expressions. | <p><u>Questions to Focus Learning</u></p> <p>How can rewriting expressions help you understand how quantities in a problem are related?</p> <p>Equivalent expressions generated by using properties of operations can help solve problems in context.</p> <p><u>Student Friendly Objectives</u></p> <p><i>Knowledge Targets</i></p> <p style="padding-left: 40px;">I can rewrite expressions using the properties of operations.</p> <p><i>Reasoning Targets</i></p> <p style="padding-left: 40px;">I understand problems in context.</p> <p style="padding-left: 40px;">I understand the relationships of different forms of numbers. (fractions, decimals, and percents)</p> <p><u>Vocabulary</u></p> <p style="padding-left: 40px;">properties of operations</p> |

Teacher Tips

Have students build on their understanding of order of operations and use the properties of operations to rewrite equivalent numerical expressions that were developed in Grade 6. Students continue to use properties that were initially used with whole numbers and now develop the understanding that properties hold for integers, rational, and real numbers.

Provide opportunities to build upon this experience of writing expressions using variables to represent situations and use the properties of operations to generate equivalent expressions. These expressions may look different and use different numbers, but the values of the expressions are the same.

Provide opportunities for students to experience expressions for amounts of increase and decrease. In Standard 2, the expression is rewritten and the variable has a different coefficient. In context, the coefficient aids in the understanding of the situation. Another example is this situation which represents a 10% decrease: $b - 0.10b = 1.00b - 0.10b$ which equals $0.90b$ or 90% of the amount.

Provide opportunities for students to use and understand the properties of operations. These include: the commutative, associative, identity, and inverse properties of addition and of multiplication, and the zero property of multiplication. Another method students can use to become convinced that expressions are equivalent is to justify each step of simplification of an expression with an operation property.

Vertical Progression

8.EE.1 - Know and apply the properties of integer exponents to generate equivalent numerical expressions.

8.EE.6-2 - Derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b .

The above information and more can be accessed for free on the [Wiki-Teacher](#) website.

Direct link for this standard: [7.EE.2](#)